

ORDINANCE NO. 1461

AN ORDINANCE TO ESTABLISH OUTDOOR LIGHTING STANDARDS FOR NEW CONSTRUCTION AND DEVELOPMENT, INCLUDING LIGHTING STANDARDS AND REGULATIONS FOR BOTH NEW AND EXISTING CONSTRUCTION; AND TO PROVIDE LIGHTING STANDARDS FOR THE PROTECTION OF TURTLES IN THE MARINE TURTLE CONSERVATION ZONE

WHEREAS, the City of Gulf Shores, Alabama, is a coastal community with an extensive shoreline on the Gulf of Mexico; and

WHEREAS, City of Gulf Shores beaches are marine turtle nesting locations; and

WHEREAS, the City of Gulf Shores shoreline is developed or will be developed with numerous structures on the shoreline in close proximity to marine turtle nests; and

WHEREAS, it is the intent of the City of Gulf Shores to protect marine turtles to the fullest reasonable extent; and

WHEREAS, artificial lighting has been proven to adversely affect marine turtles; and

WHEREAS, it is the intention of the City of Gulf Shores to ensure protection of marine turtles; and

WHEREAS, it is also the intent of the City to establish outdoor lighting standards and regulations for both new and existing construction and development throughout the community within the City Limits and Police Jurisdiction of the City of Gulf Shores.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GULF SHORES, ALABAMA, WHILE IN REGULAR SESSION ON NOVEMBER 13, 2006, as follows:

Section 1. DEFINITIONS.

Artificial light or artificial lighting: Means the light emanating from any human made device.

Beach: Means the area between the Construction Control Line and the waters of the Gulf of Mexico.

Bug Light: Means any yellow colored light bulb that is marketed as being specifically treated so as to reduce the attraction of bugs to the light.

Coastal construction activities: Means any work or development in the marine turtle conservation zone.

Coastal Construction Line (CCL): Means the portion of the coastal construction line established pursuant to the provisions of Division 8 of the ADEM Administrative Code that lies within the Gulf Shores City Limits and Police Jurisdiction.

Cumulative illuminated: Means illuminated by numerous artificial light sources that as a group illuminate any portion of the beach.

Directly illuminated: Means illuminated as a result of glowing element(s), lamp(s), globe(s), or reflector(s) of any artificial light source, which is visible to an observer on the beach.

Direct glare: Glare resulting from direct line-of-sight eye contact with a direct light source.

Dune: Means a mound or ridge of sand lying on top of the beach and deposited by natural or artificial means.

Foot-candle: A unit of measure for luminance. A unit of luminance on a surface that is everywhere one foot (1') from a uniform point source of light of one (1) candle and equal to one (1) lumen per square foot.

Frontal dune: Means the first natural or man-made mound or bluff of sand which is located landward of the beach and which has sufficient vegetation, height, continuity, and configuration to offer protective value.

Full cut-off type fixture: A luminaire or light fixture that, by design of the housing, does not allow any light dispersion or direct glare to shine above 90-degree horizontal plane from the base of the fixture.

Ground-level barrier: Means any building vegetation, natural feature or artificial structure arising from the ground, which prevents beachfront lighting from shining directly onto the beach, including the south side of the frontal dune.

Hatchling: Means any species of marine turtle, within or outside of a nest, and that has recently hatched from an egg.

Horizontal luminance: The measurement of brightness from a light source, usually measured in foot-candles or lumens, which is measured by a light meter at a given horizontal position.

Indirectly illuminated: Means illuminated as a result of the glowing element(s), lamp(s), globe(s), or reflector(s) of an artificial light source that is not visible to an observer on the beach.

Light trespass: Light from an artificial source that is intruding into an area where it is not wanted or does not belong.

Low intensity lighting: Low intensity lighting includes 25 watt (220 lumens or less) bug bulbs, red or amber LED bulbs, or seven (7) watt (400 lumens or less) compact fluorescent bulbs.

Low-pressure sodium luminaire (LPS): Means an electric discharge lamp containing sodium, neon, and argon, that when illuminated appears amber-yellow.

Marine turtle: Means any marine-dwelling reptile of the families Chelonidae or Dermochelyidae found in Gulf waters or using the beach as nesting habitat, including the species: *Caretta caretta* (loggerhead); *Chelonia mydas* (green); *Dermachelys coriacea* (leatherback); *Eretmochelys imbricate* (hawksbill); and *Lepidochelys Kemp* (Kemp's ridley). For purposes of this Ordinance, marine turtles are synonymous with sea turtles.

Marine turtle conservation zone: Includes the beach and all land abutting the beach from the Mean High Water Line northward to the south right-of-way boundary of Alabama State Highway 182 and, west of the 12-mile marker, the south right-of-way boundary of Alabama State Highway 180 within the City Limits and police jurisdiction of the City of Gulf Shores.

Nest: Means an area where marine turtle eggs have been naturally deposited or subsequently relocated.

Nesting season: Means the period from May 1 through November 30 of each year.

Nighttime: Means the locally effective time period between sunset and sunrise.

Pole lighting: Means a light fixture set on a base or pole, which raises the source of light higher than forty-eight inches (48") off the ground.

Shield: Means a non-reflective covering, canopy or other such device fitted over a light source preventing light from illuminating the beach.

Tinted glass: Means any glass treated to achieve an industry-approved, inside-to-outside light transmittance value of 45% or less. Such transmittance is limited to the visible spectrum (400 to 700 nanometers) and is measured as the percentage of light that is transmitted through the glass.

Uplighting: Any light source that distributes illumination above a horizontal plane.

Uniformity Ratio (U. Ratio): Ratio of the average level of illumination in relation to the lowest level of illumination for a given area. Example: U.Ratio = 4:1 means the lowest level of illumination (1) should be no less than 25% or “4 times less” than the average (4) level of illumination for a given area.

Section 2. OUTDOOR LIGHTING STANDARDS.

2.1 Outdoor Lighting Standards for New and Existing Construction within the Marine Turtle Conservation Zone.

- A. Purpose and Intent. This section of the ordinance is intended to protect marine turtle hatchlings from the adverse effects of artificial lighting, to provide overall improvement in nesting habitat degraded by light pollution, and to increase successful nesting activities and production of hatchlings on the beaches located within the Marine Turtle Conservation Zone within the City Limits and Police Jurisdiction of the City of Gulf Shores.
- B. Application. The standards in this section shall apply to all new and existing construction located within the Marine Turtle Conservation Zone.
- C. Standards for new construction lighting. In order to provide protection for nesting marine turtles and their hatchlings, the following standards for artificial light sources on all new coastal construction in the Marine Turtle Conservation Zone are adopted:
 - 1. Exterior artificial lighting fixtures shall be designed for and positioned so that:
 - a. The point source of light or any reflective surface of the light fixture is not directly visible from the beach;
 - b. Areas seaward of the frontal dune are not directly or indirectly illuminated; and,
 - c. Areas seaward of the frontal dune are not cumulatively illuminated.
 - 2. Exterior artificial light fixtures within direct line-of-sight of the beach will be permitted only if they are recessed fixtures having 40 watts (480 lumens) or less bug light bulbs, compact fluorescent bulbs, or red or amber LED bulbs. Other fixtures that have appropriate shields, louvers, or cutoff features may also be used if they are in compliance with subsection (1) (a), (b) and (c) above. (See acceptable fixtures in Appendix A.)
 - 3. Floodlights, up lights, or spotlights that are directly visible from the beach, or which indirectly or cumulatively illuminate the beach are prohibited. (See unacceptable fixtures in Appendix A.)
 - 4. Only eyelid or louvered step lights, or equivalent, shall be allowed on dune walkovers.
 - 5. Exterior lights used expressly for safety or security purposes must comply with subsections (1) (a) and (b) above and shall be limited to the minimum number of configurations required to achieve their functional roles.
 - 6. Parking lot or other exterior lighting shall be shielded from the beach by buildings or other ground-level barriers to the maximum extent reasonably compatible with the intended site plan configuration. Ground-level barriers must not interfere with

marine turtle nesting or hatchling emergence, or cause short or long-term damage to the beach/dune system.

7. Parking lot lighting shielded from the beach by buildings or other ground barriers may be high pressure sodium or other suitable pole mounted cut-off light fixtures. Pole height shall be limited to twenty feet (20') above ground.
 8. Parking lot lighting that is within line of sight of the beach shall either be:
 - a. Low intensity or low pressure sodium lighting that raises the source of light no higher than forty-eight inches (48") off the ground and is positioned or shielded such that the light is not visible from the beach, or
 - b. Light poles with shielded low pressure sodium light fixtures. Pole height shall be limited to twenty feet (20') or lower.
 9. Tinted glass shall be installed in all windows and glass doors on single or multi-story structures within line-of-sight of the beach, including those structures located north of the Marine Turtle Conservation Zone. Glass shall be tinted to transmittance value light transmission from inside to outside of 45% or less.
 10. Temporary lighting of construction sites during the marine turtle nesting season shall be restricted to the minimal amount necessary and shall incorporate all of the standards of this section.
 11. Before granting any building permit within the area covered by this ordinance, the Community Development Department shall determine that all proposed development complies in all respects with the standards imposed in this section.
 12. Lighting for single family and duplex dwellings and associated minor structures shall comply with Appendix B.
 13. Street lighting on public or private streets shall comply in all respects with the standards imposed in this ordinance, with the exception that appropriately shielded, full cut-off feature high-pressure sodium lights may be installed.
- D. Standards for existing lighting. In order to provide protection for nesting marine turtles and their hatchlings, the following standards for existing artificial light sources, including street lighting, within the Marine Turtle conservation Zone shall be implemented as follows:
1. Existing artificial light fixtures shall be repositioned, modified, replaced, or removed so that:
 - a. The point source of light or any reflected surface of the light fixture is not directly visible from the beach.
 - b. Areas seaward of the frontal dune are not directly or indirectly illuminated; and,
 - c. Areas seaward of the frontal dune are not cumulatively illuminated.
 2. Existing artificial light fixtures that are replaced for any reason shall comply with Subsection C, Standards for New Construction Lighting, and the following measures shall be taken:
 - a. Reposition fixtures so that the direct or reflected light from the light fixture is no longer visible from the beach;
 - b. Replace fixtures having exposed lights with fixtures containing recessed lights or shields;
 - c. Replace traditional light bulbs with 40 watt (480 lumens) or less bug-type compact fluorescent, or red or amber LED bulbs.

- d. Replace non-directional fixtures with directional fixtures that point down and away from the beach;
 - e. Replace fixtures having transparent or translucent coverings with fixtures having opaque shields covering an arc of at least 180 degrees and extending an appropriate distance below the bottom edge of the fixture on the seaward sides so that the direct or reflected light from the fixture is not visible from the beach;
 - f. Replace pole lamps so that the direct or reflected light from the fixture is not visible from the beach;
 - g. Plant or construct vegetation and/or structural barriers between the light source and beach to screen light from the beach;
 - h. Permanently remove any fixture that cannot be brought into compliance with the provisions of these standards.
3. All of the following measures shall be taken as applicable to reduce or eliminate the negative effects of interior light emanating from doors and windows within line-of-sight of the beach:
- a. If windows are replaced as part of hurricane repair or for any other reason, replace them with tinted glass windows, or apply window tint or film that meets the tinted window standard.
 - b. Rearrange lamps and other movable fixtures away from windows;
 - c. Use window treatments (i.e., blind, curtains) to shield interior light from the beach; and,
 - d. Turn off unnecessary lights.

Section 2.2 Outdoor Lighting Standards for New Construction and Development Outside the Marine Turtle Conservation Zone.

- A. Purpose and Intent. The purpose of this section of the ordinance is to ensure that all exterior lights and illuminated signs are designed, located, installed and directed in such a manner as to prevent objectionable light trespass and glare across the property lines, and /or direct glare at any location on or off the property. The “maintained horizontal luminance recommendation” set by the Illuminating Engineers Society of North America (IES) as shown in Appendix C shall be observed.
- B. The standards in this section shall apply to all new construction and development located outside the Marine Turtle Conservation Zone and within the City Limits and Police Jurisdiction of the City of Gulf Shores.
- C. All parking area lighting shall consist of full cut-off type fixtures, each installed in a horizontal position to avoid direct glare.
- D. Uplighting is prohibited. Externally lit signs, display, building and aesthetic lighting must be shielded to prevent direct glare and/or light trespass in excess of 0.2 foot-candles. The lighting shall be contained within target where reasonably possible. Internally lit signs are acceptable provided that they meet the requirements of the City of Gulf Shores Zoning Ordinance.
- E. All building lighting for security or aesthetics will be full cut-off or a shielded type, not allowing any upward distribution of light. Flood lighting is discouraged, and if used, must be able to prevent:
 1. Direct glare for drivers or pedestrians,
 2. Light trespass beyond property lines, and
 3. Light above a 90-degree, horizontal plane. Unshielded wallpack type fixtures are prohibited.

- F. Adjacent to residential property, no direct light source will be visible at the property line at ground level or above.
- G. When outdoor lighting installation or replacement is part of a development proposal for which site plan or subdivision approval is required under these regulations, the City Council or Planning Commission, respectively, shall review and approve the lighting installation.
- H. The applicant shall submit to the City sufficient information, in the form of an overall exterior lighting plan, to enable the City to determine that the provisions of this ordinance will be satisfied. The lighting plan shall include the following at a minimum:
 - 1. A site plan, drawn to the required scale, showing all buildings, landscaping, parking areas, and all proposed lighting exterior lighting fixtures;
 - 2. Plans and specifications for all proposed lighting fixtures including photometric data, designation as IESNA "cut-off" fixtures, Color Rendering Index (CRI) of all lamps (bulbs), and other descriptive information on the fixtures;
 - 3. Proposed mounting height of all exterior lighting fixtures;
 - 4. Analyses and luminance level diagrams showing that the proposed installation conforms to the lighting level standards in this section. Off-site lighting should be considered in the analyses; and,
 - 5. Drawing of all relevant building elevations showing the fixtures, the portions of the walls to be illuminated, the luminance levels of walls, and the aiming points for any remote light fixtures.
- I. Lighting of Gas Station/ Convenience Store Aprons and Canopies. All of the above standards shall apply, as well as the standards below:
 - 1. Light fixtures mounted on canopies shall be recessed so that the lens cover is recessed or flush with the bottom surface (ceiling) of the canopy.
 - 2. Areas on the apron away from the gasoline pump islands used for parking or vehicle storage shall be illuminated in accordance with the requirements for parking areas set forth elsewhere in this section. If no gasoline pumps are provided, the entire apron shall be treated as a parking area.
 - 3. Areas around the pump islands and under canopies shall be illuminated in accordance with the Appendix C.
- J. When an outdoor lighting installation is being modified, extended, expanded or added to, the entire outdoor lighting installation shall be subject to the requirements of this section.
- K. Expansions, additions, or replacements to outdoor lighting installations shall be designed to avoid harsh contrast in color and/or lighting levels.
- L. Where practicable, electrical service to outdoor lighting fixtures shall be underground.
- M. Proposed lighting installations that are not covered in this section may be approved if they are designed to minimize glare, do not direct light beyond the boundaries in excess of 0.2 foot-candles of the area being illuminated or onto adjacent properties or streets, and do not result in excessive lighting levels.

M. For the purposes of these regulations, the mounting height of a lighting fixture shall be defined as the vertical distance from the grade elevation of the surface being illuminated to the bottom of the lighting fixture (i.e., luminaire).

N. Temporary (3 months) Holiday lighting during the months of November, December and January shall be exempt from the provisions of this section, provided that such lighting does not create dangerous glare on adjacent streets or properties.

Section 3. ENFORCEMENT.

Property owners and/or other responsible parties cited for violation of this ordinance shall be given sufficient time up to 180 days to cure the violation. Any violation not cured within this timeframe shall be a misdemeanor and shall be subject to a fine not exceeding five hundred dollars (\$500.00) per day for each day the violation exists.

Section 4. SEVERABILITY.

Each separate provision of this ordinance is deemed independent of all other provisions herein so that if any portion or provision of this ordinance is declared invalid, all other provisions thereof shall remain valid and enforceable.

Section 5. That this Ordinance shall become effective upon its adoption and publication as required by law.


ADOPTED this 13th day of November, 2006.

George W. Duke, III, Mayor

ATTEST:

Renee F. Moore, MMC, City Clerk


APPENDIX A



EXAMPLE LIGHTING FIXTURES

These fixtures are meant to show typical acceptable/unacceptable lighting fixtures in respect to lighting for structures along Florida's coast to protect Sea Turtle Nesting.

For guidance please contact
Florida Fish and Wildlife Conservation Commission
Division of Wildlife - Bureau of Protected Species Management
620 South Meridian Street DOW-BPS Tallahassee, FL 32399-1600
(850) 922-4330 Fax (850) 921-6998




WALKWAY/PATH LIGHTING

STREET/PARKING LIGHTING

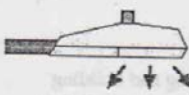
ARCHITECTURAL LIGHTING

ACCEPTABLE

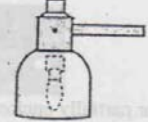
ONLY WITH PROPER BULB(S)




Low Profile Bollards with Louvers




Full Cutoff Streetlight



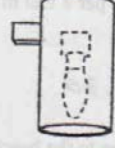
Fully Shielded NEMA Light




Recessed Can w/ baffles



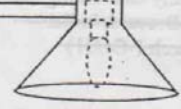
Glare Buster




Canister Downlight



'Eyelid' Step Light




Downlight




Louvered Step Light

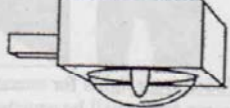
UNACCEPTABLE




Globe Fixture



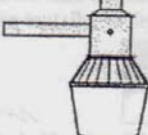
Wallpack




Drop-Lens/Sag-Lens w/ exposed bulb




Nautical Wall Sconce




NEMA Security Light




Shielded Security Light




Unshielded Carriage




Acorn Fixture




Unshielded Streetlight



Floodlight



Partially Shielded Floodlight



Drop-Lens Canopy Light

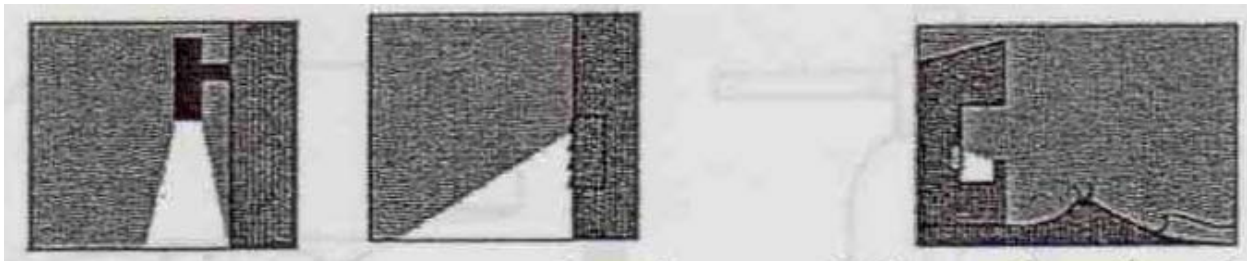
Bulbs for all fixtures should be of the Yellow 'Bug' Light variety incandescent or compact fluorescent.

APPENDIX B

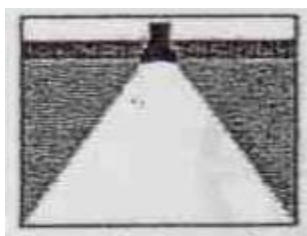
Turtle Protection Lighting Requirements For a Residential/ Duplex Family Dwelling and Associated Minor Structures or Activities

All work authorized by Single Family Building shall meet the following turtle protection requirements:

1. All **windows and glass doors** on the seaward and shore-perpendicular sides of any new dwellings or additions shall be tinted to transmittance value (light transmission from inside to outside) of 45% or less through the use of tinted glass or window film or screens.
2. The following types of lighting are authorized:
 - A. **Balcony, deck and entranceway lights** shall be of approved canister down-light fixtures or louvered wall lights that adhere to the following standard:
 - (1) **Canister** down-light fixtures shall be equipped with black baffles or grates, shall have the light source recessed so that it is not visible from the beach, shall be used with one (1) 40-watt, or less, incandescent yellow “bug” bulb, and shall be limited to no more than one (1) fixture per egress.
 - (2) **Louvered** wall lights shall be mounted twelve inches (12”) or less above the adjacent floor or deck, shall be equipped with louvers that completely hide the light source, shall be used with one (1) 40-watt, or less, incandescent yellow “bug” bulb, and shall be limited to no more than one (1) fixture per egress.



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- B. **Underhouse** lights for unenclosed or partially enclosed parking and building access areas shall be canister fixtures, either mounted on piles or recessed into the ceiling. The fixtures shall be equipped with black baffles, shall have the light source recessed so that it is not visible from the beach, shall be used with one (1) 40-watt, or less, incandescent yellow “bug” bulb, and shall be limited to no more than one (1) fixture per 100 square feet of parking or building access area.



- C. Landscaping and pathway lights shall be mushroom type fixtures, shall extend no more than twelve inches (12") above the ground, shall be used with incandescent bulbs of 25 watts or less, or with fluorescent bulbs of 7 watts or less, shall extend no farther seaward than the house, and shall be limited to one (1) fixture per 8 feet of path length or one (1) fixture per 100 square feet of ground area.



3. No lights shall be permitted on single family dune walkovers or elevated walkovers to the beach south of the dune; low intensity lighting shall be permitted landward of the dune(s) for safety purposes.
4. No additional lighting shall be authorized.
5. No temporary lighting of a construction area is authorized at any time during the marine turtle nesting season (May 1-November 30).

LIGHTING TABLE

IES Levels of Activity (Examples)	IES Maintained Horizontal Luminance Recommendations (Footcandles)					
	General Parking & Pedestrian			Vehicles Only		
	Ave.	Min.	U Ratio	Ave.	Min.	U Ratio
High	3.6	.9	4:1	2.0	.67	3:1
Civic Recreational Facilities						
Regional Shopping Centers						
Fast Food Facilities						
Gas/Convenience Store						
Medium	2.4	.6	4:1	1.0	.33	3:1
Community Shopping Ctr.						
Office Parks						
Hospital Parking						
Transportation Parking (Commuter Lots, Etc)						
Residential Complex Parking						
Low	.8	.2	4:1	.5	.13	4:1
Neighborhood Shopping						
Industrial Employee Parking						